

ABSTRACT

The invention provides a radio frequency (RF) valve control system that replaces mechanical systems that physically links a button or a handle to a flush valve or hard wired electronic control systems that physically links a sensor/electronic switch to a valve actuator within a plumbing installation. The new system is characterized by two modules, a user interface module (UIM) for locating at or adjacent a plumbing fixture (such as a water closet or urinal), and a valve interface module (VIM) operatively connected to a flush valve actuator or a valve in the water supply line of the plumbing fixture. The UIM generally has the function of providing an RF valve control signal to the VIM and the VIM has the functions of receiving, analysing, and responding to the RF valve control signal and sending a signal to the valve actuator to initiate a flush cycle or initiating a valve control process to control a valve within the water supply line to start or stop water flow to the fixture. The system may be deployed as a single UIM/VIM pair or as multiple UIM/VIM pairs within a multi-fixture installation. In each case, each UIM/VIM pair communicates with its respective UIM or VIM in both a learning and active mode.